

REMARKS

*Claims 1, 2, 15-21, 24 and 26-28 are pending in the application. The Applicants have amended Claims 1 and 16 to particularly point out and distinctly claim the subject matter that Applicants regard as the invention. Support for the present amendments is found throughout the specification and claims, as originally filed. The Applicants have cancelled Claims 15, 17-20 and 24 without prejudice. The Applicants have made the present amendments to place the present application in condition for allowance and/or to minimize issues on appeal.*

*Objection to the Specification*

The Examiner has indicated to the Applicants' that the use of the trademark "PEG(NPC)2, (NH2)2-PEG, t-BOC-NH-PEG-NH2, MAL-PEG-NHS" should be capitalized wherever it appears and be accompanied by the "generic terminology." The Applicants do not understand the Examiner's use of the phrase "generic terminology" and respectfully request clarification.

*Rejection under 35 USC § 112, Second Paragraph*

The Examiner has rejected Claim 24 under 35 USC § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. The Examiner's attention is respectfully directed to the "Amendments" section of the instant communication, in which the Applicants have cancelled Claim 24. Accordingly, reconsideration and withdrawal of the rejection to Claim 24 are respectfully requested.

*Rejection under 35 USC § 102(b) over Schulein*

The Examiner has rejected Claims 1, 2, 15-19, 26 and 28 under 35 USC § 102(b) as allegedly being anticipated by WO Patent Number 94/07998 to Schulein et al (hereinafter "Schulein"). The Examiner's rejection is respectfully traversed. The Applicants respectfully direct the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicants have amended Claim 1, from which the balance of the rejected claims ultimately depend, only to obviate the Examiner's rejection. In light of the present amendments, the Applicants submit that Schulein fails to disclose a hybrid protein comprising one or more amino acid sequences comprising a cellulose binding domain, linked to a softening protein via a non-amino acid linker. Reconsideration and withdrawal of the rejection to Claims 1, 2, 15-19, 26 and 28 under 35 USC § 102(b) are therefore respectfully requested.

*Rejection under 35 USC § 102(b) over Gilkes*

The Examiner has rejected Claims 1-2, 15-19, 21 and 28 under 35 USC § 102(b) as allegedly being anticipated by WO Patent Number 93/05226 to Gilkes et al (hereinafter "Gilkes"). The Examiner's rejection is respectfully traversed. The Applicants respectfully

direct the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicants have amended Claim 1, from which the balance of the rejected claims ultimately depend, only to obviate the Examiner's rejection. In light of the present amendments, the Applicants submit that Gilkes fails to disclose each and every element of the present invention. Specifically, Gilkes fails to disclose a fabric softening protein hybrid comprising an amino acid sequence comprising a specific cellulose binding domain linked to a softening protein, via a non-amino acid linking region, as now required by amended Claim 1. Reconsideration and withdrawal of the rejection to Claims 1-2, 15-19, 21 and 28 under 35 USC § 102(b) are therefore respectfully requested.

Rejection under 35 USC § 103(a) over Schulein in view of Gilkes in further view of Linder

The Examiner has rejected Claims 1-2, 15-21 and 26-28 under 35 USC § 103(a) as allegedly obvious over Schulein in view of Gilkes in further view of J. Biol. Chem., Vol. 271(35):21268-21272, 1996 by Linder et al (hereinafter "Linder"). The Examiner's rejection is respectfully traversed. The Applicants respectfully direct the Examiner's attention to the "Amendments" section of the instant communication, in which the Applicants have amended Claim 1, from which the balance of the aforementioned claims ultimately depend, only to obviate the Examiner's rejection. In light of the present amendments, the Applicants respectfully submit and strongly urge that Schulein in view of Gilkes in further view of Linder fail to teach or suggest a fabric softening protein hybrid comprising an amino acid sequence comprising a specific cellulose binding domain linked to a fabric softening protein via a non-amino acid linking region, as now required by amended Claim 1. Reconsideration and withdrawal of the rejection to Claims 1-2, 15-21 and 26-28 under 35 USC § 103(a) is therefore respectfully requested.

Rejection under 35 USC § 103(a) over Schulein or Gilkes in view of Zalipsky

The Examiner has rejected Claim 24 under 35 USC § 103(a) as allegedly obvious over Schulein or Gilkes in view of WO 94/21281 to Zalipsky et al (hereinafter "Zalipsky"). The Examiner's rejection is respectfully traversed. The Applicants respectfully direct the Examiner's attention to the "Amendments" section of the instant paper, in which the Applicants have amended Claim 1, from which claim 24 ultimately depends, only to obviate the Examiner's rejection. In light of the present amendments, the Applicants submit that Schulein or Gilkes in view of Zalipsky fail to teach or suggest a fabric softening protein hybrid comprising an amino acid sequence comprising a specific cellulose binding domain linked to a fabric softening protein via a non-amino acid linking region, as now required by amended Claim 1. Reconsideration and withdrawal of the rejection to Claim 24 under 35 USC § 103(a) are therefore respectfully requested.

**CONCLUSION**

Attached hereto at the conclusion of the is communication is a separate sheet entitled "Version With Markings To Indicate Changes Made." Applicants have made an earnest effort to place the present claims in condition for allowance. WHEREFORE, entry of the amendments provided herewith, reconsideration of the claims as amended in light of the Remarks provided, withdrawal of the claims rejections, and allowance of Claims 1, 2, 16, 21, and 26-28, as amended, are respectfully requested. In the event that issues remain prior to allowance of the noted claims, then the Examiner is invited to call Applicants' undersigned attorney to discuss any remaining issues.

Respectfully submitted,

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**VERSION WITH MARKINGS INDICATING CHANGES MADE**

Claim 1 (Amended). A fabric softening protein hybrid comprising an amino acid sequence comprising a cellulose binding domain linked to a fabric softening protein;  
wherein said fabric softening protein is linked to said amino acid sequence comprising a cellulose binding domain, via an amino acid and/or non-amino acid linking region;  
wherein the cellulose binding domain is selected from the group consisting of CBD Cellulozome from *Clostridium cellulovorans*, CBD E3 from *Thermonospora fusca*, CBD-dimer from *Clostridium stecorarium* XynA, CBD from *Bacillus agaradherens*, and/or mixtures thereof; wherein 2 to 50 amino acid sequences are cross-linked via a non-amino acid linking region; and further wherein said non-amino linking region is a polymer selected from polyethylene glycol derivatives, nucleophilic polyethylene glycol derivatives, carboxyl polyethylene glycol derivatives, electrophilically activated polyethylene glycol derivatives, sulfhydryl-selective polyethylene glycol derivatives, heterofunctional polyethylene glycol derivatives, biotin polyethylene glycol derivatives, vinyl polyethylene glycol derivatives, silane polyethylene glycol derivatives, phospholipid polyethylene glycol derivatives, 1-ethyl-3-(3-dimethylaminopropyl) carbodiimide, N-ethyl-5-phenylisaoxolium-3-sulphonate, 1-cyclohexyl-3(2-morpholineethyl) carbodide metho-p-toluene sulphonate, N-ethoxycarbonyl-2-ethoxy 1,2 dihydroquinoline or glutaraldehyde and mixtures thereof.

~~Claim 15 (Amended). A fabric softening protein hybrid according to claim 1, wherein the cellulose binding domain is selected from the group consisting of CBD CenC, CenA, Cex from *Cellulomonas fimi*, CBD CBHI from *Trichoderma reesei*, CBD Cellulozome from *Clostridium cellulovorans*, CBD E3 from *Thermonospora fusca*, CBD-dimer from *Clostridium stecorarium* XynA, CBD from *Bacillus agaradherens*, CBD family 45 from *Humicola insolens* and/or mixtures thereof.~~

Claim 16 (Amended). A fabric softening protein hybrid according to claim 1 wherein the amino acid sequence comprising a cellulose binding domain is selected from the group consisting of CBD family 45 from *Humicola insolens*, CBD CenC from *Cellulomonas fimi* and/or CBD Cellulozome from *Clostridium cellulovorans*.

~~Claim 17 (Amended). A fabric softening protein hybrid according to claim 1 wherein several amino acid sequences comprising a cellulose binding domain are cross linked via an amino acid and/or non-amino acid linking region.~~

~~Claim 18 (Amended). A fabric softening protein hybrid according to claim 1 wherein 2 to 50 amino acid sequences are cross-linked via an amino acid and/or non-amino acid linking region.~~

~~Claim 19 (Amended). A fabric softening protein hybrid according to claim 1 wherein 2 to 10 amino acid sequences are cross-linked via an amino acid and/or non-amino acid linking region.~~

~~Claim 20 (Amended). A fabric softening protein hybrid according to claim 1 wherein the amino acid sequence comprising the N-terminal CBD of *Trichoderma reesei* CBHI is linked to the amino acid sequence comprising the C-terminal CBD of *Trichoderma reesei* CBHI.~~

~~Claim 24 (Amended). A fabric softening protein hybrid according to claim 1, wherein said linking region is a polymer selected from PEG(NPC)<sub>2</sub>, (NH<sub>2</sub>)<sub>2</sub> PEG, t BOC-NH-PEG-NH<sub>2</sub>, MAL-PEG-NHS and/or VS-PEG-NHS polymers.~~